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STUDIES OF PERUVIAN BIRDS. XII

NOTES ON *HYLOPHYLAX*, *MYRMOTHERA*, AND *GRALLARIA*

BY JOHN T. ZIMMER

I am greatly indebted to Dr. C. E. Hellmayr, Vienna, for comparative notes on certain specimens in European museums; also to Field Museum of Natural History, Chicago, and Carnegie Museum, Pittsburgh, for the loan of some material used in the following studies.

Names of colors when capitalized indicate direct comparison with Ridgway's 'Color Standards and Color Nomenclature.'

***Hylophylax punctulata punctulata* (Des Murs)**

Rhopotera punctulata DES MURS, in Castelnau, 1856 (June), 'Expéd. Amér. Sud,' (pt. 7), I (3), Oiseaux (livr. 18), p. 53—Haut Amazone (restr. to Pebas, Perú; Hellmayr, 1924); "♂" [= ♀]; Paris Mus.

Rhopothera guttata DES MURS, 1856, *tom. cit.* (December), (livr. 20), Pl. xvii, fig. 3.

Examples at hand from Puerto Indiana and Anayacu are practically topotypes and serve well as a basis for the comparison of material from other regions. A female from Orosa, across the Amazon from Anayacu, and a female from Sarayacu on the Ucayali are similar in all respects to the Puerto Indiana and Anayacu birds. Records from Iquitos and the Río Javari complete the history of this species in Perú.

A series of thirty-one skins from the upper Orinoco, the Cassiquiare, and the Caura in southwestern Venezuela appear to be inseparable from the Peruvian birds, although there is a wide gap in their distribution which avoids northwestern Brazil. The Venezuelan birds average a trifle less broadly striped on the breast, but there are various specimens as heavily marked as the Peruvian birds, a larger series of which might show the same amount of variation.

Seven birds from various localities in Brazil, east of Perú and south of the Amazon, do, however, show a uniformly recognizable difference and justify the separation of a new form which may be described as follows.

***Hylophylax punctulata subochracea*, new subspecies**

TYPE from Limoã, left bank of Rio Tapajoz, Brazil. No. 288,591, American Museum of Natural History. Adult male collected July 24, 1931, by Alfonso M. Olalla.

DIAGNOSIS.—Similar to *H. p. punctulata* of northeastern Perú, but upper surface averaging somewhat brighter; light spots on back and wings less pure white, more tinged with buff; dark area on external margins of primaries at their bases much smaller; dark patch on under wing-coverts at base of primaries less extensive and paler. Males with flanks not gray but dull ochraceous, lower belly and under tail-coverts not white but pale ochraceous; median rectrices not entirely black basad of the pale tips, but with only a subterminal black band and with the basal two-thirds of the feathers dull brownish-olive. Females with posterior under parts more strongly ochraceous; median rectrices with subterminal black band subobsolete and the basal portion warmer brown than in the males.

RANGE.—South bank of the Amazon in Brazil from the lower right bank of the Rio Madeira eastward to the right bank of the Xingú.

DESCRIPTION OF TYPE.—Anterior upper parts from crown to anterior scapulars and interscapulars pale brownish-olive; forehead and an inconspicuous line over the eye light gray; lores white with a dusky or blackish bar on the upper portion, a narrow ring around the eye, the subocular space, and the auriculars white, with the tips of the auriculars blackish; sides of neck a little grayer than the nape; feathers of the middle and lower back black at their tips in increasing degree posteriorly, and with a rounded, faintly buffy white spot just before their tips, these also progressively increasing in size posteriorly; a large, silky white patch concealed in this area near the bases of the feathers; upper tail-coverts broadly black at tips and on lateral margins, but grayish olive centrally. Chin, throat, and malar region black, continuous with the blackish tips of the auriculars; breast white, with upper portion unmarked, forming a crescentic patch; feathers of lower breast and sides with broad central stripes of black beyond their middle, laterally margined with white, making the area heavily striped; upper belly white; lower portion and crissum pale ochraceous; flanks darker and duller ochraceous. Remiges sooty, with bright brownish-olive outer margins except at extreme base and on innermost quills; inner quills black with a large subquadrate patch of buffy white at tips of outer webs; greater upper wing-coverts black with broad buffy white tips; median series similar but with tips less buffy; lesser series brownish olive, with small, pale tips and some black near the tips, the markings obsolete on innermost feathers; alula with white outer margin. Tail mostly black with whitish tips, broad and white on outer rectrices, triangular and more buffy on middle ones; median pair of rectrices with the black reduced to a subterminal band 4 mm. in width (measured on shaft) and the basal two-thirds of the feathers Brownish Olive x Sepia; second pair with outer webs brown in the same proportionate length, third pair with brown reduced to a marginal border on outer web; this color obsolete on remaining rectrices. Bill black (in dried skin); feet light horn-color. Wing, 60 mm.; tail, 30.5; exposed culmen, 16; culmen from base, 18; tarsus, 17.

REMARKS.—Females are as described for the male except that the upper surface is warmer brown, with the black portions withdrawn somewhat from the lateral feathers toward the mid line and with the pale spots deeper buff; upper tail-coverts warm brown instead of black but with narrow blackish tips; median rectrices warm brown with the black subterminal band very narrow. Throat and chin white, continuous with the white crescent on upper breast; a broad black malar stripe from

bill to sides of neck; lower under parts more strongly and extensively ochraceous than in the male, with only a small area on upper belly white. Wing, 59, 59 mm.; tail, 28.25, 30.75; exposed culmen, 14, 14.5; culmen from base, 17.25, —; tarsus, 17, 17.75.

Males show a range of measurements on both sides of the type. Wing, 58–64 mm.; tail, 28.75–33.75; exposed culmen, 15–16; culmen from base, 17.5–18.5; tarsus, 16.5–17.75.

Although some females of *punctulata* have, in a modified degree, the markings on the tail, as exhibited by the males of the new form, none of them approach the females of *subochracea* in this particular, and none of the males appear to have more than a suggestion of brown on the middle rectrices.

The two skins from the lower right bank of the Madeira appear to belong here without question, and, although one of them (not fully adult) has less ochraceous posteriorly than the other males of the series, both have the brown-banded tail of the new form. Hellmayr (Novit. Zool., XIV, p. 377, 1907, and XVII, p. 354, 1910) has noted birds from Calamá and Humaythá as inseparable from true *punctulata*, and it is probable, therefore, that *punctulata* ranges east to the left bank of the Madeira and crosses that stream to its right bank in the neighborhood of the Machados. Further material from this region should be studied.

SPECIMENS EXAMINED

H. p. punctulata.—PERÚ: Puerto Indiana, 2 ♂, 1 ♀; Anayacu, 1 ♀; Orosa, 1 ♀; Sarayacu, 1 ♀. VENEZUELA: Esmeralda, 4 ♂, 1 ♀; Caño León, 6 ♂, 4 ♀; Río Orinoco, mouth of Río Ocamo, 2 ♂, 2 ♀; Lalaja, 1 ♀; Río Cassiquiare, Quemapure, 1 ♀; El Merrey, 1 ♀; opposite El Merrey, 5 ♂, 2 ♀; La Unión, Río Caura, 1 ♂, 1 ♀.

H. p. subochracea.—BRAZIL: Río Tapajoz, Limoãl, 2 ♂ (incl. type), 1 ♀; Caxiricatuba, 1 (♀); Río Xingú, Tapará, 1 ♂; Río Madeira, Igarapé Auará, 2 ♂.

***Hylophylax poecilonota lepidonota* (Sclater and Salvin)**

Hypocnemis lepidonota SCLATER AND SALVIN, 1880, P. Z. S. London, p. 160—Sarayacu, eastern Ecuador; ♀; British Mus.

Hylophylax poecilonota obscurior (*obscurus* in list of specimens) CARRIKER, 1930, Proc. Acad. Nat. Sci. Phila., LXXXII, p. 369—Puerto Yessup, Río Pichis, Perú; ♀; Acad. Nat. Sci. Phila.

The examination of additional material from northern Perú and eastern Ecuador confirms my earlier belief (Field Mus. Nat. Hist. Publ., Zool. Ser., XVII, p. 335, 1930) that Peruvian birds (except from the extreme southeastern part of the country) are inseparable from typical *lepidonota*. It is evident from Carriker's comparative notes that he compared his supposedly new form, "*obscurior*," with examples, not of

lepidonota, as stated, but of some form much more closely allied to (if not identical with) *duidae*. The description of "*obscurior*" applies in detail to *lepidonota*, and a male from near the type locality of *lepidonota* was placed in the supposedly new form.

The females at hand from Ecuador and Perú are relatively uniform in their dark and dull coloration and in the extensive white area at the base of the interscapulars; the males similarly are all relatively dark gray with the interscapular patch likewise extensive.

On the other hand, a large series from the upper Rio Negro, the Uaupés, the Cassiquiare, and the Cunucunumá in Brazil and Venezuela are strikingly different in the female plumage and recognizably so in the male dress. The females are much brighter rufescent or orange-ochraceous throughout, with the forehead and superciliary region noticeably still brighter, the under wing-coverts also orange-ochraceous, and the white area at the base of the interscapulars much reduced. The males are paler gray with a similarly reduced patch of white on the mantle in many cases, though some examples are not to be told from *lepidonota*. Of twenty-two females from this region, all are quite distinct from typical *lepidonota*.

For this form the name *duidae* is available, the type of which is among the material now at hand. The type and a female paratype are not so strongly marked as the Rio Negro birds but evidently represent the same form at its northernmost extension of range.

Colombian examples are not available in sufficient numbers to settle the question of their identity. Dr. Chapman already has referred two Bogotá skins to *duidae* and three La Morelia skins to *lepidonota*. The La Morelia skins are fairly typical *lepidonota*, but the Bogotá skins are not easily defined. The male is pale but may be faded. The "female" is brighter than *lepidonota* but deeper in tone than females of *duidae*, though not unlike young males. Since it is not fully adult it may be a wrongly sexed immature male. In any case these skins must be retained in *duidae*. Hellmayr (1924) notes two Bogotá females as like Rio Negro examples.

There is no doubt that *lepidonota* is a conspecies of *poecilonota*. The fine series of birds from the base of Mt. Duida affords an opportunity to study the relationship through the intervening form *duidae*. This form is, as stated, easily separable from *lepidonota* by the much brighter rufescent tone of the females and by the somewhat paler gray coloration of the males. Unfortunately, the only material of this bird available to its author at the time of its description was from the edge

of its range where it already begins to show some intermediacy with *poecilonota*. The type locality is at the western base of Mt. Duida on the Río Cucucunumá, whence the subspecies ranges southward to the Cassiquiare, and by that route to the Rio Negro and the Uaupés in Brazil, following the Negro (both banks) eastward to the vicinity of Santa Isabel. It is not found in typical form on the southeastern slopes of Duida, as will be detailed below.

The Guianan form, *poecilonota*, is somewhat variable. Skins of both sexes at hand from British Guiana have the rump much less strongly marked with black subterminal areas and pale (white, ♂; ochraceous buff, ♀) tips than skins from the Rio Jamundá, Brazil, or the upper Orinoco and Caura rivers, Venezuela. Furthermore they have a smaller amount of white concealed on the mantle of the males and no such white on the females. The females, in addition, have the dark subterminal areas on the mantle dull and not very blackish nor very large. Rio Jamundá females have a small trace of white concealed on the back and more pronounced black near the tips of the feathers, and middle Venezuelan birds are like them in respect to the black markings, though they still lack the concealed white patch.

A series from the southeastern side of Mt. Duida, from the north bank of the Orinoco up to an elevation of two thousand feet, are, for the most part, indistinguishable from the Caura and upper Orinoco (Nericagua) skins, though an occasional specimen shows much more white concealed on the back. The skins from one locality in this limited region, Valle de los Monos, near the southern angle of Mt. Duida (the point nearest the range of *duidae*) are distinctly intermediate between *duidae* and *poecilonota*. Of five females from this locality, one is much like the type of *duidae* (though the pale tips of the lower interscapulars are faintly buffy); the second is similar but with dark ochraceous tips on the mantle; the third is more like the first but with the belly medially pale grayish or whitish; the fourth is more like other Venezuelan examples of *poecilonota* but has the throat and breast suffused with ochraceous and the tips of some of the interscapulars whiter than usual; the fifth is no different from the ordinary Venezuelan skins of *poecilonota*. Except the fourth (which is molting on the back), these birds have well-developed white concealed on the mantle. A young male from the same locality is of the *duidae* type but has the tips of the mantle feathers buffy, the belly very pale buffy, and the throat distinctly paler than the chin and malar region, thus suggesting the pattern, though not the exact coloration, of *poecilonota*.

It is strange that *duidae* has not crowded out this outpost of *poecilonota* or merged with it more completely. To reach this region on the southeastern slopes of Mt. Duida, *poecilonota* may have broken away from the Orinoco not far from Nericagua and followed the slopes of the Serra Parima across to the northward of Mt. Duida to meet the Orinoco again near Esmeralda; it may have crossed the Pacaraima Mountains at the head of the Caura Valley where there appears to be a pass between 500 and 1000 meters in elevation, just within the known vertical range of this bird; or it may have spread from the Rio Jamundá along the southern slopes of the Pacaraimas to the head of the Orinoco and thence to Mt. Duida. In any case, the Cassiquiare and Cunucunumá birds, as shown in the material before me, represent the form described as *duidae*.

Occasional females from eastern Colombia are as brightly colored as *duidae* but seem to represent the extreme of *lepidonota* in the direction of the other form rather than the reverse. Typical *lepidonota* from eastern Ecuador has distinctly duller females, as is mentioned above.

The specimens of so-called *lepidonota* from the "Rio Solimões" with which Carriker compared his supposed new *obscurior* are discussed as being so brightly colored in the female plumage as to point to their identity with *duidae*. I surmise that they came from the neighborhood of Tonantins or from some not far distant point on the north bank of the Solimões to which *duidae* may be expected to extend from the upper Rio Negro.

Records of *lepidonota* from Perú, other than those of the specimens listed below, are from La Merced, Huayabamba, Nuevo Loreto, Pozuzo, Monterico, Iquitos, Chamicuros, Yurimaguas, Huambo, and Puerto Yessup.

***Hylophylax poecilonota griseiventris* (Pelzeln)**

Pithys griseiventris PELZELN, 1868 (September), 'Orn. Bras.,' II, p. 167—Villa Maria, Engenho do Gama, and Borba (restricted to Borba, Hellmayr, 1924); cotypes in Vienna Mus.

The sole record from Perú is based on a single female collected by Harry Watkins at Astillero, southeastern Perú, already noted by Dr. Chapman (Amer. Mus. Novit., No. 86, p. 7, 1923). This bird agrees with two examples (one male and one female but both not quite adult) from Teffé, Brazil, in being slightly less strongly rufescent on the upper surface than skins from the Rio Madeira, but the differences are not great and are largely overcome by individual variation. Without larger series from the western part of the range, it would be unsafe to separate

a new form, although Hellmayr (Novit. Zool., XIV, p. 67, 1907) has noted the same condition in other Teffé females.

There are no records from Bolivia, where the form almost certainly occurs, since it exists in Matto Grosso, Brazil, across northern Bolivia from Perú.

A female from Rosarinho, Rio Madeira, shows affinity to *lepidonota* by having small buffy white tips on the lower mantle feathers preceded by even fainter dusky subterminal markings, broad buffy tips on the inner remiges and upper wing-coverts, and a trace of dull whitish on the middle of the inner webs of some of the rectrices. The general color of the back is less rufescent than that of the Astillero bird. Similar traces of the same sort are seen in other specimens, notably a female of *nigrigula* from Villa Bella Imperatriz. Actually this tendency may indicate a reduction in the degree of sexual dimorphism, since the markings in question, also found in some young males, are modified copies of the dorsal pattern (but not color) of adult males.

Incidentally, as may be seen from the subjoined list of specimens, *nigrigula* is not confined to the left bank of the Tapajoz, as heretofore supposed, but occupies the lower right bank as well. Madame Snethlage's record of *vidua* from the Rio Jamauchim (Tucunaré), if based on a female, may well belong here also; if based on a male, both forms may occur in this region at different places, but I suspect rather that the Tucunaré record is assignable to *nigrigula*.

SPECIMENS EXAMINED

H. p. poecilonota.—BRITISH GUIANA: 4 ♂, 3 ♀. BRAZIL: Faro, 5 ♂, 3 ♀. VENEZUELA: La Unión, Río Caura, 1 ♀; Nericagua, Río Orinoco, 1 ♀; southeastern slopes of Mt. Duida, 325–2000 ft. (Campamento del Medio, Playa del Río Base, Caño Seco, Savana Grande, Esmeralda, Río Pescada, Pie del Cerro), 9 ♂, 10 ♀; Valle de los Monos,¹ 2 ♂, 5 ♀.

H. p. duidae.—VENEZUELA: foot of Mt. Duida (western side), Río Orinoco (near Río Cunucunumá), 5 ♂, 2 ♀ (incl. type); Río Orinoco (left bank), opposite mouth of Río Ocamo, 1 ♂; Río Cassiquiare, Solano, 1 ♂; El Merey, 3 ♀; opposite El Merey, 2 ♀; Río Huaynia (right bank), confluence with Cassiquiare, 1 ♂, 3 ♀. BRAZIL: Río Uaupés, Tahuapunto, 6 ♂, 2 ♀; Río Negro, Tatú, 4 ♂, 3 ♀; Mt. Curucuryari, 4 ♂, 4 ♀; Yucabi, 4 ♀; Tabocal, 1 ♀; Santa Maria, 1 ♀; San Gabriel, 2 ♂. COLOMBIA: "Bogotá" (not typical), 1 ♂, 1 ♀ (?).

H. p. lepidonota.—ECUADOR: Zamora, 2 ♂, 2 ♀; Río Suno, above Avila, 1 ♂, 1 ♀; lower Río Suno, 1 ♂, 1 ♀; below San José, 4 ♂; mouth of Río Curaray, 1 ♂, 4 ♀. COLOMBIA: La Morelia, 1 ♂, 2 ♀. PERÚ: Puerto Indiana, 1 ♂; Río Seco, west of Moyobamba, 2 ♂, 2 ♀; Pomará, Río Marañón, 3 ♀; Vista Alegre, 1 ♂²; Puerto Bermúdez, 1 ♀²; Lagarto, upper Ucayali, 1 ♂.

¹Intermediate between *poecilonota* and *duidae*.

²Specimens in Field Museum of Natural History, Chicago.

H. p. griseiventris.—PERÚ: Astillero, 1 ♀. BRAZIL: Rio Madeira, Borba, 2 ♂, 3 ♀, 1 (?); Igarapé Amorin, 1 ♂, 4 ♀; Rosarinho, 1 ♀; Santo Antonio de Guajará, 1 ♂; Rio Roosevelt, "Camp 14," 1 ♂; Teffé, 1 ♂, 1 ♀.

H. p. gutturalis.—BRAZIL: São Paulo de Olivença, 3 ♂¹, 3 ♀¹.

H. p. nigrigula.—BRAZIL: Villa Bella Imperatriz, Rio Amazonas, 4 ♂, 4 ♀; Rio Tapajoz (right bank), Santarem, 1 ♂; Tauary, 1 ♂; Caxiricatuba, 4 ♂, 2 ♀, 1 (?); (left bank), Limoal, 2 ♂, 2 ♀; Igarapé Brabo, 4 ♂, 2 ♀.

H. p. vidua.—BRAZIL: Providencia, Pará, 1 ♂; Mocajuba, 1 ♂; Ananindeua, 1 ♀; Utinga, 1 ♀; Benevides, 3 ♂¹, 3 ♀¹; Turyassú, Maranhão, 1 ♂², 1 ♀²; Rio Tocantins, Arumatheua, 1 ♂; Baião, 1 ♂, 2 ♀; Mocajuba, 4 ♂, 3 ♀, 1 (?); Rio Xingú, Villarinho do Monte, 2 ♂, 2 ♀; Porto do Moz, 1 ♂, 2 ♀.

***Myrmothera campanisona minor* (Taczanowski)**

Grallaria minor TACZANOWSKI, 1882, P. Z. S. London, p. 33—Yurimaguas; ♂; type formerly in Warsaw Mus., now lost.

Seventy-four skins of this species are at hand from various parts of its range including thirteen from northern Perú. An examination of this material has shown that some rearrangement of the group is necessary. The name *minor* has been applied to all the birds of Perú, eastern Ecuador, southeastern Colombia, and western Brazil south of the Amazon, east to the Rio Juruá and the Rio Purús. Natterer's record from Marabitanas has been placed with typical *campanisona* (with a query), and a form, *subcanescens*, has been separated from the region lying between the Rio Madeira and the right bank of the Rio Tapajoz.

The Peruvian examples from south of the Amazon west across the bend of the middle Marañón, appear to belong to a single subspecies which is *minor*. I have no exact topotypes, but specimens from both east and west of Yurimaguas show no recognizable differences. The upper side is close to Medal Bronze in color, with the top of the head usually a trifle duller; the pectoral markings are buffy olive, of moderate intensity, and the flanks are medium gray adjoining the belly but broadly olivaceous laterad.

Birds from eastern Ecuador (and probably northeastern Perú, north of the Amazon) are noticeably darker and more rufescent, with a more strongly contrasting cap, heavier marks on the chest, and darker flanks, and are also smaller.

Skins from southeastern Colombia (Florencia and La Morelia) are again lighter above, but with a browner tone than that of *minor*, and are more delicately marked on the chest and paler on the flanks, while the size is small. They are even more distinctly separable from the Ecua-

¹Specimens in Carnegie Museum, Pittsburgh.

²Specimens in Field Museum of Natural History, Chicago.

dorian series than they are from *minor*, though they are geographically closer. They are equally distinct from the olive-backed and gray-flanked *modesta* from the Bogotá region and find their nearest affinity in a series of skins from the Río Cassiquiare, the foot of Mt. Duida, both banks of the upper Rio Negro, and the right bank of the latter stream down to near its mouth. This series is decidedly different from true *campanisona*, which ranges from the Guianas to the north bank of the Amazon at Faro and is recognizable by its light rufescent back and relatively rufescent pectoral markings. The Cassiquiare form, to which Natterer's Marabitanas specimens must belong, is more like *minor* than *campanisona*, but is lighter and clearer above and more lightly marked on the chest and flanks, and is also smaller.

The Tapajoz form, *subcanescens*, is very like *campanisona* above, though sometimes a little duller, while the markings of the chest are grayer or more olivaceous and less rufescent or brownish in color, the flanks are darker, and the tail is longer, though the other measurements are much the same, possibly averaging a little greater. Presumably this form ranges west to the right bank of the Rio Madeira.

West of the Rio Madeira the birds are as lightly marked on the chest as the Cassiquiare examples, but the back is at the extreme of olivaceous tone, judging by an adult and an immature female from Rosarinho. However, so closely do these skins compare to the Cassiquiare specimens that I refer them to that form for the present.

No names are available for the east-Ecuadorian and Rio Negro-Cassiquiare forms, and they are accordingly described and named herewith, with additional notes on each.

Records from Perú which belong to *minor* are from Yurimaguas, Chamicuros, Chuchurras, and the Río Javari, besides Pomará and Puerto Bermúdez which are among the localities from which material has been examined for the present study. The Pebas record is discussed under the following form.

***Myrmothera campanisona signata*, new subspecies**

TYPE from below San José, eastern Ecuador. No. 184,361, American Museum of Natural History. Adult male collected April 8, 1924, by Carlos Olalla and Sons.

DIAGNOSIS.—Similar to *M. c. minor* of northern Perú (south of the Amazon) but distinctly darker and more rufous on the upper surface, more heavily marked on the breast and sides, and more broadly and deeply gray on the flanks; size smaller except for length of tail. Not so rufous above as *campanisona* but darker and with the top of the head noticeably duller and darker; markings on breast and sides more olivaceous, less rufescent.

RANGE.—Eastern Ecuador (probably reaching northeastern Perú north of the Amazon.

DESCRIPTION OF TYPE.—Back dark Argus Brown (x Brussels Brown); top of head Fuscous; lores dull buffy with sooty tips; auriculars fuscous; malar region a little paler and grayer; chin and throat white with tips finely olive-brown; breast with sagittate white centers and dull Medal Bronze latero-terminal margins which are wider on the sides of the breast where the white centers are reduced to shaft-stripes; outer border of flanks narrowly dark Medal Bronze; inner portion and sides of belly Neutral Gray on margins, with broad white shaft-stripes on upper flanks, obsolete on lower flanks; middle of belly white; under tail-coverts dark Dresden Brown, brighter and more rufescent at tips. Tail blackish with outer margins and all of middle rectrices Mars Brown; wings Fuscous; outer margins of wings and exposed portions of upper wing-coverts Mars Brown; under wing-coverts Ochraceous-Orange x Ochraceous-Tawny; inner margins of remiges Avellaneous x Cinnamon. Bill (in dried skin) blackish; base of mandible whitish; feet light brown. Wing, 81 mm.; tail, 36; exposed culmen, 17; culmen from base, 21.5; tarsus, 41.5.

REMARKS.—Female similar but averaging somewhat smaller.

Six males have the following measurements: wing, 77–84 mm. (av. 80); tail, 28–34.5 (av. 32.5); culmen from base, 20.5–21.5 (av. 21); tarsus, 37–41.5 (av. 39.9). Five females: wing, 76.5–80.5 mm. (av. 79); tail, 29–36 (av. 33.2); culmen from base, 20–21 (av. 20.6); tarsus, 39–41 (av. 40).

Eight males of *minor* measure as follows: wing, 83–88 mm. (av. 85.6); tail, 31.5–38 (av. 34.6); culmen from base, 21–25 (av. 23.2); tarsus, 42–44 (av. 42.9). Four females: wing, 78–86.5 mm. (av. 82.1); tail, 29.5–39 (av. 33.4); culmen from base, 20–23.5 (av. 23.2); tarsus, 41–45 (av. 42.2).

Some examples of the new form have less olive or Medal Bronze on the flanks than the type, and one topotypical male has very little olivaceous tone anywhere on the under surface, with the margins of the pectoral feathers Neutral Gray like the flanks. Those specimens with the grayest under parts are inclined to be more olivaceous on the upper surface, while those with the most olive or bronzy-olive breast (most like *minor* in this respect) are the most rufous above (the least like *minor*).

Certain skins have the top of the head even more deeply fuscous than the type but others are no darker than *minor*. Immature examples are not always clearly separable from *minor*, especially from young *minor*, but the two forms in series are readily distinguishable as are most individuals.

There is a record from Pebas, on the north bank of the Amazon, east of the Río Napo, which belongs here without much question, though there is a slight possibility that it may be referable to the Río Cassiquiare form, next described.

***Myrmothera campanisona* dissors, new subspecies**

TYPE from the Río Cassiquiare, Venezuela, right bank, opposite El Merey. No. 417,393, American Museum of Natural History. Adult male collected April 20, 1929, by the Olalla brothers.

DIAGNOSIS.—Back less rufescent than in *M. c. campanisona* or *subcanescens* paler than in *minor*, much paler than in *signata*, less olivaceous than in *modesta*, latero-terminal borders of pectoral feathers duller than in the other forms; flanks lighter, less strongly grayish.

RANGE.—Río Cassiquiare and the foot of Mt. Duida, Venezuela, westward to southeastern Colombia and southeastward along the right bank of the Rio Negro (Brazil) to its mouth, apparently crossing the Amazon to the left bank of the lower Rio Madeira.

DESCRIPTION OF TYPE.—Upper surface Dresden Brown x Raw Umber. Lores dull whitish with fine brownish tips; auriculars dark Buffy Brown; chin and throat white with inconspicuous grayish-olive tips, strongest laterally; breast with latero-terminal margins dull Light Brownish Olive enclosing a sagittate, white, central area; sides with the dark margins broader and the white median portions reduced to narrow shaft-lines; inner flank-feathers white with narrow lateral margins Smoke Gray, the margins broader and more brownish laterad, approaching the color of the back on the outermost; thighs and under tail-coverts buffy brown. Outer surface of remiges somewhat warmer than the back, approaching Brussels Brown; upper wing-coverts near the color of the back; inner margins of remiges dull cinnamonaceous; under wing-coverts bright ochraceous-cinnamon. Tail near Prout's Brown. Bill (in dried skin) blackish with base of mandible dull yellowish; feet dull grayish-brown. Wing, 85 mm.; tail 36; exposed culmen, 16.5; culmen from base, 20; tarsus, 39.

REMARKS.—Females like the males in color but averaging somewhat smaller. Wing, 79–82 mm. (av. 79.8); tail, 31–37 (av. 33); culmen from base, 19–21.75 (av. 20.6); tarsus, 38–42 (av. 40.7). The series of males measures: wing, 80–85 mm. (av. 82.3); tail, 32–36 (av. 34.5); culmen from base, 20–23 (av. 24.6); tarsus, 39–43 (av. 40.6).

An immature female from the "Campamento del Medio," Mt. Duida, has the mantle, sides of breast and sides of head (including lores and superciliary region), chin and throat, and remiges and rectrices apparently adult. The whole top of the head (from forehead to nape is rich Bay; the center of the breast is Bay; the sides of the upper belly are Hazel; the remainder of the belly is white, tinged with Hazel; the flanks are Bay; the rump is Bay; the upper wing-coverts are brownish like the back but with dull Auburn tips; the scapulars are dull Bay.

There is some variation among the adults in various directions, but the combination of characters is not duplicated in any of the other known forms. No example at hand is as olivaceous above nor so broadly gray on the flanks as *modesta* (represented by a skin from Villavicencio,

Colombia); four examples from southeastern Colombia (Florencia and La Morelia) are among the darkest of the series, probably showing a tendency in the direction of *signata* of eastern Ecuador. Similarly there is no indication of the rufescence of *campanisona* or *subcanescens*. Two specimens from Rosarinho, on the left bank of the Madeira near its mouth, appear to belong to *dissors*, though they are at the light end of the series. They can not be matched even approximately in *subcanescens* to the eastward or *minor* to the westward, but are very close to certain examples of *dissors* without matching them perfectly. A series from the western bank of the Rio Madeira will be necessary to establish their exact identity.

SPECIMENS EXAMINED

M. c. campanisona.—FRENCH GUIANA: Tamanoir, 2 ♂, 1 ♀. BRITISH GUIANA: Tumutumari, 1 ♂. BRAZIL: Faro, 5 ♂.

M. c. subcanescens.—BRAZIL: Rio Tapajoz, Tauary, 3 ♂; Aramanáy, 5 ♂, 1 ♀; Igarapé Amorín, 1 ♀; Limoál, 1 ♀; Igarapé Brabo, 3 ♂, 2 ♀, 1 (?); Rio Amazonas, Villa Bella Imperatriz, 1 ♂.

M. c. minor.—PERÚ: Río Negro, west of Moyobamba, 1 ♂; Pomará, 1 ♂, 1 ♀; Orosa, 2 ♀; Lagarto, Río Ucayali, 4 ♂, 1 ♀; Santa Rosa, Río Ucayali, 2 ♂; mouth of Río Urubamba, 1 ♀; Puerto Bermúdez, 1 ♂¹.

M. c. signata.—ECUADOR: below San José, 2 ♂ (incl. type), 2 ♀; mouth of Río Curaray, 1 ♂, 1 ♀; Río Suno, above Avila, 3 ♂, 1 ♀; lower Río Suno, 1 ♀.

M. c. modesta.—COLOMBIA: Villavicencio, 1 ♂.

M. c. dissors.—VENEZUELA: Río Cassiquiare (left bank), El Merey, 1 ♂, 1 ♀; (right bank), opposite El Merey, 1 ♂ (type), 1 ♀; Río Huaynia, confluence with Cassiquiare, 1 ♂; Mt. Duida, Lalaja, 1 ♂; Caño León, 1 ♂; "Campamento del Medio," 1 ♀; Playa del Río Base, 1 ♂. BRAZIL: Río Negro, Tatú, 1 ♂; San Gabriel, 1 ♂, 1 ♀; Yavanari, 1 ♀; Igarapé Cação Pereira, 1 ♂; Rio Madeira (left bank), Rosarinho, 2 ♀. COLOMBIA: Florencia, 1 ♂, 1 ♀; La Morelia, 2 ♂.

***Grallaria albigula* Chapman**

Grallaria albigula CHAPMAN, 1923 (Aug. 28), Amer. Mus. Novit., No. 86, p. 8—Santo Domingo, s. e. Perú; ♂; Amer. Mus. Nat. Hist.

The type and paratypes of this interesting bird still remain the only recorded examples. A careful comparison of them with other species shows no near relative among Peruvian forms, but a definite relationship, however interrupted, with the *nuchalis* group of Ecuador and Colombia, in which I include *ruficeps*.

There are many points of resemblance in structural details and some in coloration, while the differences are not so basic. The wing-formula is similar; the tail and legs are similarly long; the contrasting lines of the top of the head and the back, the whitish markings of the loreal and

¹Specimen in Field Museum of Natural History, Chicago.

anterior facial region, and the more deeply rufescent tone of the auriculars compared with the crown are features in common though not of equal development. The bill in the *nuchalis* group is somewhat heavier and more strongly decurved at the tip, and the under parts are gray (of different shades) instead of whitish as in *albigula*, though grayish toward the sides and flanks, and the circumocular ring is not complete nor so conspicuous. Nevertheless the relationship is closer between *albigula* and the *nuchalis* group than between either of them and any other species. Consequently I would place these species next to each other while recognizing their specific distinction. They are evidently of considerable antiquity and have long been separated with no known relative occupying the great extent of the Peruvian Andes now between their ranges.

SPECIMENS EXAMINED

G. albigula.—PERÚ: Santo Domingo, 2 ♂ (incl. type), 1 ♀.

G. n. nuchalis.—ECUADOR: Baeza, 1 ♂; Maspa, 1 ♂; Oyacachi, 1 ♀; upper Sumaco, 1 ♂, 3 ♀.

G. n. obsoleta.—ECUADOR: Mt. Pichincha, 1 ♂, 1 ♀; Verdecocha, 1 ♂; Río Blanco, below Mindo, 1 (?).

G. n. ruficeps.—COLOMBIA: Almaguer, 2 ♂, 2 ♀; Laguneta, 2 ♂, 1 ♀; "Bogotá," 1 (?); no locality, 1 (?).

Grallaria erythroleuca Sclater

Grallaria erythroleuca SCLATER, 1873, P. Z. S. London, p. 783—Huasampilla (=Huaisampillo), Perú; British Mus.

A male from Occobamba Valley has been compared with all available species and shows no very close relationship to any except *G. rufo-cinerea* of Colombia. With this, however, it has a great many points in common, in spite of the first impression of distinction. In the first place both have the same proportions of wings, tail, bill, and feet. The upper surface is warm rufescent with the head only a little brighter than the back and with the lores (in the male sex) a trifle paler but not at all whitish. The remiges are broad to near the tips. The texture of the plumage is the same. The wing-formula is the same. The bill and feet of *erythroleuca* are heavier but in length are proportionate to the other measurements.

The differences are of color but not of pattern. In *erythroleuca*, the throat is white, the breast rufous-ochraceous with broad white tips in the middle, the sides and flanks are darker than the breast but without white tips, at least on the exterior feathers, and the belly is white. In *rufo-cinerea*, the throat is rufous, not white, but different from the breast

which is gray, with only a suggestion of white tips; sides and flanks darker than the breast; the belly is whitish at tips. Above, as mentioned, there is much similarity in the two birds.

It may be concluded that *erythroleuca* and *rufo-cinerea* are both members of the same ancient group of which only the two ends are now left. On account of their somewhat pronounced differences and their wide geographical separation, they may be left as distinct species, though they should stand next to each other in the check lists.

At present, *erythroleuca* is known only from the mountain chain just east of the Río Urubamba, on both slopes of which it has been found at Huaisampillo and Occobamba Valley.

SPECIMENS EXAMINED

G. erythroleuca.—PERÚ: Occobamba Valley, 1 ♂.

G. rufo-cinerea.—COLOMBIA: Laguneta, 2 ♂, 2 ♀; above Salento, 1 ♂.

***Grallaria ruficapilla albiloris* Taczanowski**

Grallaria albiloris TACZANOWSKI, 1880, P. Z. S. London, p. 201—Cutervo and Callacate, Perú; type from Cutervo (♂), formerly in Warsaw Mus., now lost.

I have at hand forty-two skins from the central and western Andes of northwestern Perú which appear to represent two relatively distinct subspecies, to one of which the name *albiloris* should be applied. Unfortunately the birds from the eastern side of the western cordillera, but west of the Marañón, are somewhat intermediate in characters, and it was to specimens from this region that Taczanowski applied his name. Nevertheless this region is connected with the western slopes of the western Andes (at least in places) by a nearly continuous belt of the Subtropical Zone, the habitat of the species thereabouts, but is separated from the central Andes by the cañon of the Marañón with its arid conditions. Furthermore, Taczanowski, after describing *albiloris*, examined specimens from the central Andes which he found to differ from his typical series in certain respects that are apparent in the material now before me, together with other differences not noted by Taczanowski. Consequently it seems best to consider the Pacific slope birds as extreme examples of typical *albiloris* and to describe the central Andean birds as new.

Taczanowski compared his *albiloris* with *G. ruficapilla* of Antioquia and found the bill of the Peruvian birds to be distinctly longer. This is true of the western birds but not of the easternmost ones. Furthermore, he discussed the blackish line separating the white shaft-stripes from the olive margins of the lateral breast-feathers, a character best

developed in the west. Later the Chachapoyas examples were found to have the rufous of the head more intense, the white of the under parts more yellowish, the lores and subocular region more extensively varied with blackish, and the rufous (= orange-ochraceous) markings on the pectoral spots more pronounced. These characters are all variably apparent in the series at hand from the Chachapoyas region. In addition, I have found the western birds to have the pale eye-ring usually less developed and less whitish, frequently strongly ochraceous-rufous, only a little lighter in color than the crown and not defined as an eye-ring, but in other examples it is broad and conspicuous, though never as pronounced and white as it is in central Andean specimens. A Huancabamba male approaches the new form in this respect, but two females from San Felipe, Río Huancabamba, have very little tendency in this direction. These three birds have a somewhat grayer tone on the back and sides than most of the examples from the Pacific slope, especially one female from San Felipe which has less olive or brownish tone than any of either series. The Pacific slope examples average clearer olive on the back than the new form but they are mostly in fresher condition and worn specimens are not well marked in this respect. Some are very dark and others light, with much individual variation. Aside from size, the best character of *albiloris* as distinct from the new form is the notable development of the dusky lines separating the white shaft-streaks from the brown or olive margins on the breast, sides, flanks, and rump.

A single male from Loja, Ecuador, is exactly intermediate between *albiloris* and *connectens*. Even the lores are pale ochraceous and the eye-ring is barely suggested; there is a slight extension of the rufescence of the auriculars on to the sides of the lower throat and subocular space; the rufous of the top of the head is relatively light; the back is touched with grayish at the tips, and there is a grayish tone in the olive of the sides and flanks which are not so heavily marked as in *connectens*. Two young males from Hacienda Limón, west of the Marañón, near Balsas, are virtually inseparable from the central-Andean form which occurs east of Balsas on the opposite side of the Marañón Valley. It is only by a very close study of the two forms in series that the characters of *albiloris* can be discerned in the Hacienda Limón specimens. Probably a series of adults from this locality would show better correlation with *albiloris* than do these two immature specimens. The distinction between the two forms is to be expected on opposite sides of the valley hereabouts, since there is a definite break in the Subtropical Zone through the interposition of the arid cañon of the river. Between Hacienda Limón and the

general range of *albiloris* there may be a slight but less positive interruption, but probably there is a sort of continuity by means of scattered patches of forest along the slopes of the western Andes.

In any case, it is relatively certain that the nearest geographical approach of the two forms is in this neighborhood where also the nearest approach in taxonomic characters may be expected.

There is a suggestion of *watkinsi* in some of the Pacific coast examples. A male from Seques, northwest of Pacasmayo, has the legs and feet notably pale brown, and there are suggestions of pale streaks on the mantle; there are similar suggestions in a male from Seques and a female from Palambla; the shafts of the forehead and crown also sometimes show as narrow, pale streaks, though there is not the development of streaking as present in typical *watkinsi*, which is discussed below.

Records which belong to *albiloris*, except those from localities listed with the material examined, are from Cutervo, Callacate, and Tabaconas. The new form may be distinguished as follows.

***Grallaria ruficapilla interior*, new subspecies**

TYPE from San Pedro, southeast of Leimebamba, Perú; altitude 8600–9400 feet. No. 235,531, American Museum of Natural History. Adult male collected February 4, 1926, by Harry Watkins; original number, 10,115.

DIAGNOSIS.—Similar to *G. r. ruficapilla* of the western cordillera of northwestern Perú, but with the marginal streaks of the breast, sides, and flanks lighter and more brownish olive, without such well-defined blackish stripes separating the margins from the whitish shaft-stripes, and with the center of the breast usually less strongly marked but with the markings more frequently orange-ochraceous; whitish shaft-stripes on rump less strongly developed, narrower, and without prominent dusky borders between the central stripes and the olivaceous margins of the feathers; eye-ring broader and whiter; general color of under parts a little more strongly tinged with buffy; dusky line between lores and forehead usually heavier; rufous of head a little clearer; bill shorter and other measurements inclined to be smaller.

RANGE.—Western slopes of Central Andes of northern Perú; Subtropical Zone.

DESCRIPTION OF TYPE.—Top of head Sanford's Brown x Auburn, passing into light Brownish Olive on the back where the feathers are indistinctly margined with grayish; feathers of mantle with traces of whitish shaft-lines concealed; lower back and rump with narrow whitish shaft-stripes (not strongly bordered with dusky) not reaching the tips of the feathers; upper tail-coverts like mantle; lores white with fine, blackish tips, heaviest on upper portion where they form a dark border to the forehead; around the eye a broad whitish eye-ring; auriculars like crown, with narrow whitish bases exposed; malar region whitish with narrow blackish tips. Chin and throat whitish, tinged with pale buff; breast similarly buffy white, immaculate in middle but laterally with margins of light Buff Brown, mixed, toward the middle of the breast, with orange-ochraceous; sides with brown margins somewhat more olivaceous and the whitish shaft-stripes narrower, obsolete on outermost feathers; flanks

with margins Light Brownish Olive separated from the broad whitish shaft-stripes by fine, not very distinct, dusky lines; abdomen and under tail-coverts white with a light buffy tinge. Wings with exposed outer surface Light Brownish Olive x Saccardo's Umber;^s outer webs of alula somewhat paler; under wing-coverts bright ochraceous-cinnamon; inner margins of remiges darker cinnamomeous; tail dark Saccardo's Umber. Bill blackish (in dried skin), slightly slaty at lower base; feet dark brown. Wing, 100 mm.; tail, 56; exposed culmen, 21; culmen from base, 26.75; tarsus, 51.

REMARKS.—Female similar to male but slightly smaller. Wing, 97–100.5 mm. (av. 99); tail, 55–60 (av. 56.2); culmen from base, 26–26.75 (av. 26.5); tarsus, 50–51 (av. 50.5).

The series of ten males measures as follows: wing, 100–103.5 mm. (av. 101.5); tail, 53–64 (av. 58.6); culmen from base, 26.5–27.75 (av. 27); tarsus, 49.5–51.5 (av. 50.5).

The series of *G. n. albiloris* shows the following measurements. Males: wing, 101–108.5 mm. (av. 102.7); tail, 61–65 (av. 62.1); culmen from base, 28–30.5 (av. 29.4); tarsus, 49.5–55.25 (av. 52.4). Females: wing, 96–100 mm. (av. 98.6); tail, 59–63 (av. 60.2); culmen from base, 27–29 (av. 28.5); tarsus, 49.75–53.5 (av. 52.3). Taczanowski's measurements in the original description of the male specifies the wing, 104 mm. (later emended to 103); tail, 67 (later emended to 62); culmen, not originally given but later said to be 31; tarsus, 52. For the female: wing, 99; tail 62; culmen, 30; tarsus, 54.

Records which should be assigned to this new form are from *Tamia pampa* and "Chelo" (=Chilla), in addition to the localities given in the list of specimens examined.

***Grallaria ruficapilla watkinsi* Chapman**

Grallaria watkinsi CHAPMAN, 1919 (December), Proc. Biol. Soc. Wash., XXXII, p. 255—Milagros, Prov. Piura, Perú; ♂ ad.; Amer. Mus. Nat. Hist.

A careful study of the twenty-four available skins of this interesting bird shows such close resemblance in general respects to the various forms of *G. ruficapilla* that their relationship becomes unquestioned, though the degree of affinity is not so clear.

As noted under *G. r. albiloris*, there is in that form an occasional tendency toward *watkinsi* in lighter legs and feet and traces of pale streaks on head and back, though these are not so well developed as in typical *watkinsi*. The present bird, however, is not always uniformly distinct, and there is considerable variation, though all of the specimens examined can be identified without hesitation.

For example, a nearly adult male from Alamor, Ecuador, has no more streaking above than some *albiloris*; a female from the Río Pindo, among other skins, has the back poorly streaked but the forehead well-marked. Usually the streaks on the mantle are narrow, but three specimens from La Puente, Alamor, and Portovelo have them broader and outlined with dusky. The top of the head is usually duller and more ochraceous in tone than in *albiloris*, but an occasional specimen, like a female from Portovelo, can be matched rather closely in *albiloris*. The latero-ventral streaks are usually more strongly tinged or supplemented with orange-ochraceous, but some agree well with *albiloris*. The auriculars are rather consistently more grayish distally and more broadly whitish at the base, but there is an occasional trace of warmer color in evidence. The variations are more pronounced in the Ecuadorian birds than in the series of topotypes, possibly because the type locality is farthest removed from contact with the ranges of other forms of *ruficapilla*. In any case the differences seem to be of degree rather than of kind.

A possible conflict of ranges with *G. r. connectens* in western Ecuador has been thought to preclude the consideration of *watkinsi* as a subspecies of *G. ruficapilla*, but I believe that there is no actual conflict. All the localities from which we have *connectens* are above 5000 feet in elevation, in the true Subtropical Zone; those where *watkinsi* have been found are all below 5000 feet on the hills between the valleys of the Río Tumbes and the Río Catamayo and its affluents. Mr. H. E. Anthony, who caught some of the Ecuadorian specimens of *watkinsi* and *connectens* in his traps for small mammals, tells me that the localities of *watkinsi* were somewhat more arid in nature than those of *connectens* though still of a general subtropical aspect. The influence of the immediately adjacent Arid Tropical Zone was apparent, and some of the mammalian fauna was distinctly that of the Arid Tropics, but, on the other hand, part of the vegetation indicated the existence of continuous moisture. This hybrid zone of semiarid Subtropics, reaching from at least as low as 1850 feet and as high as 4550 feet, is the home of *watkinsi*, while the higher, more humid elevations, even on the same slopes within a few miles of the others, at least from 5350 feet to 9750 feet, within the true Subtropical Zone, are the home of *connectens*.

With these facts in evidence, I believe that the relationship of *watkinsi* to the *ruficapilla* group is best expressed by trinomials.

Up to date, *watkinsi* has been found in Perú only at Milagros and, owing to the limitations of its zonal requirements, it is not likely to appear at any great distance from this locality.

SPECIMENS EXAMINED

G. r. ruficapilla.—COLOMBIA: 8 ♂, 4 ♀, 3 (?). ECUADOR: Verdecocha, 1 ♂, 1 ♀; upper Sumaco, 2 ♂; above Baeza, 2 ♂, 1 ♀; Ambato, 2 (?); Quito, 1 (?).

G. r. avilae.—VENEZUELA: Galipan, 2 ♂, 2 ♀; Silla de Caracas, 2 ♂.

G. r. nigro-lineata.—VENEZUELA: Valle, 3 ♂, 1 (?); Mérida, 2 ♂, 2 (?).

G. r. connectens.—ECUADOR: Taraguacocha, 3 ♂ (incl. type), 1 ♀; Celica, 2 ♂; San Bartolo, 1 ♂, 3 ♀; Guachanamá, 1 ♀; El Chiral, 1 ♀; above Zaruma (6000 ft.), 1 ♀.

G. r. watkinsi.—PERÚ: Milagros, 5 ♂ (incl. type), 1 ♀. ECUADOR: Portovelo, 1 ♂, 4 ♀; Río Pindo, 1 ♀; La Puente, 1 ♂, 1 ♀; Alamor, 4 ♂, 4 ♀; Guainche, 2 ♂.

G. r. albiloris.—PERÚ: Seques, 4 ♂, 2 ♀; Taulis, 3 ♂; Chugur, 2 ♂, 2 ♀; Palambra, 1 ♂, 4 ♀; Huancabamba, 1 ♂; San Felipe, Río Huancabamba, 2 ♀; Hacienda Limón, 2 ♂¹.

G. r. interior.—PERÚ: Chachapoyas, 1 ♂; San Pedro, 6 ♂ (incl. type), 1 ♀; La Lejia, 3 ♂, 5 ♀; Levanto, 1 ♂; mountains east of Balsas, 1 ♂¹, 1 ♀¹.

***Grallaria macularia diversa*, new subspecies**

TYPE from Puerto Indiana, Río Amazonas (mouth of Río Napo), Perú; No. 231,935, American Museum of Natural History; adult male collected July 9, 1925, by Carlos Olalla and sons.

DIAGNOSIS.—Similar to *G. m. macularia* and *G. m. paraensis* but distinctly browner on the upper surface, less olivaceous, and with the shaft-streaks of the mantle less prominent or obsolete; tips of greater and middle upper wing-coverts less noticeably paler than the median portions and much less sharply defined; pale spot on outer webs of the primaries at their bases equally well-marked as in *macularia* and *paraensis*, but the distal portion of these webs not so strongly paler than the adjacent areas; under wing-coverts more deeply orange-ochraceous and without the dusky subterminal portions exhibited in some *macularia*; subterminal portions of pectoral feathers more strongly ochraceous; flanks browner; tail shorter than in *paraensis*, about as in *macularia*; wings variable.

RANGE.—Northeastern Perú, north of the Amazon, extending northeastward to the Cassiquiare and the region of Mt. Duida, Venezuela.

DESCRIPTION OF TYPE.—Top of head, except forehead, Deep Neutral Gray; center of forehead in midline somewhat brownish, bordered on each side by a dusky line; sides of forehead deep Ochraceous-Buff; lores paler, inclined to whitish, and with more or less prominent blackish tips which are strongest posteriorly where they form a blackish patch or line; a broad circumocular ring of Ochraceous-Orange bordered above by a narrow dusky line continuous with the blackish portion of the lores; auriculars anteriorly deep Ochraceous-Buff, with broad, dark brown tips. Back dark Medal Bronze with pale shaft-lines on middle portions concealed by the tips of the feathers. A broad, blackish stripe on upper border of malar region and another on the sides of the throat, separated by a white or buffy white stripe; center of chin and throat white; breast strongly marked with a blackish, V-shaped mark at the tip of each feather (usually not quite closed at the apex) and with the enclosed portion of the web deep ochraceous, passing into white more basad; sides similar but with the blackish markings first supplemented by olive-brown external margins which become

¹Specimens in Field Museum of Natural History, Chicago.

broad on the outer feathers while the blackish markings disappear; flanks light ochraceous-brown; belly white; under tail-coverts white tinged with ochraceous. Upper wing-coverts like back or somewhat darker, the greater and middle series with ill-defined ochraceous-tawny tips, obsolete on inner feathers; lesser series, near bend of wing, with some similar markings; longest feather of alula with entire outer web deep Ochraceous-Buff; primary-coverts blackish; primaries blackish brown with a patch of ochraceous-buff on outer web at base (except on outermost), extending about 6 mm. beyond the tips of the primary-coverts; remainder of outer webs near Sudan Brown, darker immediately following the buff basal patch but not strongly ochraceous distally; secondaries and tertials margined exteriorly with Brussels Brown or the color of the back; inner margins of remiges light Pinkish Cinnamon at least toward their bases; under wing-coverts tawny Ochraceous-Orange. Tail like the back. Maxilla (in dried skin) dull brown; mandible paler; feet pale brown. Wing, 86 mm.; tail, 33; exposed culmen, 18; culmen from base, 23; tarsus, 35.

REMARKS.—Females, like the males. There is some variation in the series from the region of Mt. Duida, in the direction of *macularia* as well as away from it. The nearest approach to *macularia* in the color of the mantle is shown by a female from opposite El Meroy, Río Cassiquiare, but it is still somewhat browner than either of the Guianan specimens and, in addition, shows no increase in the distinctness of the tips on the upper wing-coverts. A male from Caño León, Mt. Duida, has a slight tendency in the latter direction, but it is one of the brownest skins of the series, being Medal Bronze x Raw Umber on the mantle. A female from the same locality is even warmer. The pale patch at the base of the primaries is sometimes nearly concealed by the primary-coverts but usually is well-developed as in the type. The flanks are variable in warmth like the back, and the blackish marks of the chest are always heavy.

I was at first confident that this form would prove to be entitled to the name *diluta*, described by Hellmayr from Thomar, Rio Negro, Brazil, and later synonymized with *paraensis*, but a reëxamination of the type, kindly made for me by Dr. Hellmayr, indicates the distinction of the present form. Dr. Hellmayr writes that the type of *diluta* is decidedly greenish above, like Guianan birds, with distinct, pale shaft-lines, with well-defined ochraceous-tawny tips on the upper wing-coverts, and with conspicuous pale outer margins on the apical two-thirds of the primaries. In spite of the curious distribution of the three forms as hereby indicated, the arrangement appears to be as follows: *G. m. macularia*—French and British Guiana; *G. m. paraensis*—Pará district, left bank of lower Tapajoz, right bank of upper Rio Madeira, and right bank of middle Rio Negro; *G. m. diversa*—northeastern Perú (north of the Amazon) and region of Mt. Duida, Venezuela. All these areas are

widely separated, and there is no known connection between them. Possibly some local ecological factor has determined the distribution and remains yet to be discovered.

Records from Perú are from Iquitos and Loretoyacu, the latter in territory belonging to Perú at the time of record. There is the possibility that Temminck's original description of "*Pitta macularia*" from "le Bresil," emended to "Cayenne" by Hellmayr (1910), was actually drawn up from a specimen of what is now known as *paraensis*, in which case the type locality should remain Brazil. If so, Chubb's name "*macconnelli*" would be available for the Guianan form.

Hellmayr's suggestion (Field Mus. Nat. Hist. Publ., Zool. Ser., XIII, p. 355, footn. b, 1924) that "*macularia*" might prove to be assignable to the bird Wied described as *Myioturdus ochroleucus* from Bahia, does not appear so probable. Wied's type is no longer in existence, but his description fits rather exactly a specimen at hand from Iriquy, Bahia, to which the descriptions of *Grallaria martinsi* also apply reasonably well. On the other hand, Temminck's description of *macularia* does not fit the Bahia specimen in various particulars, including its mention of a gray crown and ochraceous forehead. It seems assured, therefore, that *ochroleuca* and *martinsi* represent a species distinct from *macularia* and of doubtful affinity to specimens collected by Natterer in São Paulo and described by Hellmayr (*tom. cit.*, p. 357, footn. a).

SPECIMENS EXAMINED

G. m. macularia.—BRITISH GUIANA: Ituribisci, 1 (?); "Mines District," 1 (?).

G. m. paraensis.—BRAZIL: Rio Tapajoz, Limoál, 1 ♂.

G. m. diversa.—PERÚ: Puerto Indiana, 1 ♂ (type). VENEZUELA: Mt. Duida, Caño León, 1 ♂, 1 ♀; Río Cassiquiare, Caño Durutomoni, 1 ♂; El Merey, 1 ♂; opposite El Merey, 1 ♂, 4 ♀; mouth of Río Ocamo, 1 ♂, 1 ♀.

G. ochroleuca.—BRAZIL: Bahia, Iriquy, 1 ♂.

